

AMENDED CLAIMS

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original claims 1 - 11, replaced by amended claims 1 - 10]

- 5 1) Method for producing cardboard tubes by winding a plurality of ribbons (U, L) onto a spindle (1), a preset number of said ribbons (U, L) being glued in correspondence of the lower surface thereof, a predetermined amount of supplementary quick setting glue being applied on the lower surface of the last ribbon (U) destined to be wound on the spindle (1), in proximity to at least a longitudinal edge (BU) of said ribbon (U) forming a corresponding stripe of quick setting glue (G) astride of a section (ST) of the same ribbon interested by a subsequent cutting action executed downstream of the spindle (1), characterized in that the application of said at least one stripe of supplementary glue (G) is operated at intervals corresponding to a preset length of said last ribbon (U).
- 10 2) Method according to claim 1 characterized in that said stripe of quick setting glue (G) is distributed in proximity to both the longitudinal edges (BU) of said ribbon (U).
- 15 3) Method according to claim 1 characterized in that the quick setting glue is a "hot melt" glue.
- 20 4) Method according to one or more of the preceding claims, characterized in that said stripes of quick setting glue (G) are distributed by two injectors (30) acting along an advancing path of the said ribbon (U) upstream of the spindle (1).
- 25 5) Method according to one or more of the preceding claims, characterized in that all the ribbons (U, L) are of the same width.
- 30 6) Method according to one or more of the claims from 1 to 4, characterized in that the ribbons (U, L) are of different width.
- 35 7) Method according to claim 1, characterized in that said

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preset length depends on the length of the tubes to be obtained.

- 5 8) Cardboard tubes producing machine, comprising a structure (S) supporting feeding means for a plurality of ribbons (U, L) of paper or paper-like material, a spindle (1) on which said ribbons (U, L), glued in correspondence of the respective lower surfaces, with the exception of the first ribbon which is destined to the direct contact with the spindle (1), are wound, means (2) for moving said ribbons (U, L) and winding them on said spindle (1), the machine comprising means (3) disposed and acting along a path of the ribbon (U), the upper surface of which is destined to define the outer surface of a tube (T), said means (3) distributing a stripe of supplementary quick setting glue (G) in proximity to almost a longitudinal edge (BU) of the lower surface (UV) of said ribbon (U) astride of a section (ST) of the latter interested by a subsequent cutting operation downstream of the spindle (1), characterized in that said means (3) are operated at intervals corresponding to a preset length of said last ribbon (U).
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- 25 9) Machine according to claim 8, characterised in that said distributor means (3) of supplementary quick setting glue comprise a couple of injectors (30) fixed to a plate (32) that is fixed to the structure (S) near the exit section of the latter, with the respective nozzles (31) directed to the lower surface (UV) of the ribbon to be treated, the latter being kept in guide, in correspondence of the injectors (30), by a wing (33) of the said plate (32) oriented parallel to the advancing direction (X) of the ribbon (U) and which is spaced from the nozzles (31) of the two injectors (30), the ribbon (U) passing through the space between the wing (33) and the nozzles (31), with the upper surface turned towards
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the wing (33) and the lower surface (UV) turned towards the nozzles (31).

- 5 10) Machine according to claims 8 and/or 9, characterised in that it comprises programmable electronic means (4, 5) apt to measure the length of the portions of ribbon (U) in correspondence of said means (3; 30) distributing the supplementary quick setting glue: said means (3; 30) being driven by programmable electronic means (4, 5).